



## LISTING OF CLAIMS

1. (currently amended) A polyolefin blend comprising a propylene containing polymer, ~~an ethylene copolymer elastomer which is a reaction product of a copolymer of ethylene and at least one alpha olefin, this elastomer functionalized with maleic anhydride,~~
- ~~wherein the alpha olefin consists of 1-octene, 1-hexene, 1-heptene, 1-butene, 1-hexene, 4-methyl-1-pentene, and mixtures thereof~~ at least one impact modifier selected from an ethylene copolymer elastomer which is a reaction product of ethylene and at least one  $\alpha$ -olefin selected from 1-octene, 1-heptene, 1-hexene, 4-methyl-1-pentene, 1-butene and mixtures thereof, wherein the elastomer is functionalized with maleic anhydride; a styrenic copolymer with maleic anhydride grafting; ethylene vinyl acetate modified with maleic anhydride or hydroxyl ethyl acrylate; copolymers of two of ethylene, butyl acrylate, and glycidyl methacrylate; terpolymers of ethylene, acrylic esters, and maleic anhydride or glycidyl methacrylate; and ethylene-propylene rubbers with maleic anhydride grafting, and
- ~~an ionomer which is an ethylene-based polyolefin-metal salt which is the a reaction product of an ethylene-acid~~ ethylene: $\alpha,\beta$ -ethylenically unsaturated carboxylic acid copolymer or terpolymer and a metal salt, the polyolefin-metal salt being an ionomer, an alpha, beta-ethylenically unsaturated carboxylic acid polymer in which ~~wherein~~ the acid units are partially neutralized with metal ion (s).
2. (currently amended) The polyolefin blend of ~~claim~~ Claim 1, wherein the propylene polymer ~~may be comprises~~ comprises at least one of a homopolymer propylene or a random or block copolymer of propylene and ethylene, and the polyolefin blend ~~may be comprises~~ comprises from about 10 to 80 weight percent of the propylene polymer, from about 1 to 50 weight percent of the an ethylene copolymer elastomer impact modifier, and from about 5 to 60 weight percent of the ~~polyolefin-metal salt ionomer~~.

3. (currently amended) The polyolefin blend of ~~claim~~ Claim 1, wherein the propylene polymer, ~~for optimal hardness and scratch resistance, consists essentially of~~ comprises: from 40 to 75 weight percent of the propylene polymer; from about 1 to 25 weight percent of the an ethylene copolymer elastomer impact modifier; and from 5 to 35 weight percent of the ~~polyolefin-metal salt ionomer of the blend~~.

4. (currently amended) The polyolefin blend of ~~claim~~ Claim 1, wherein the impact modifier is an ethylene copolymer elastomer or an acrylate containing copolymer or terpolymer and is crosslinked with peroxide or silane ~~with a catalyst selected from the transition metals of Group VIII, including complexes of these metals, this material optionally crosslinked prior to compounding or in situ.~~

5. (currently amended) The polyolefin blend of ~~claim~~ Claim 1, wherein the impact modifier is an ethylene copolymer elastomer which is a crosslinked[[/]] or partially vulcanized thermoplastic elastomer.

6. (currently amended) The polyolefin blend of ~~claim~~ Claim 1, wherein the propylene containing polymer is selected from at least one of a homopolymer propylene[[,]] and a random or block copolymer of propylene[[,]] and ethylene, and the polyolefin blend ~~may be~~ comprises from about 5 to 75 weight percent of the propylene containing polymer, from about 1 to 50 weight percent of the an ethylene copolymer elastomer impact modifier, and from about 5 to 65 weight percent of the ~~polyolefin-metal salt ionomer~~.

7. (currently amended) The polyolefin blend of ~~claim~~ Claim 1, ~~which includes an interfacial wherein the~~ impact modifier ~~selected from~~ is a styrene copolymer with maleic anhydride grafting wherein the styrene copolymer is a styrene- ethylene interpolymer, a styrenic block copolymer, ~~or elastomer,~~ a random styrenic copolymer ~~or elastomer, all of which have may have been modified with maleic anhydride.~~

8. (currently amended) The polyolefin blend of ~~claim 1~~ Claim 7, wherein the styrenic copolymers, ~~interpolymers or elastomers modified with maleic anhydride represent~~ between represents 1 to about 30 weight percent of the blend.
9. (currently amended) The polyolefin blend of ~~claim~~ Claim 1, ~~further comprising an~~ wherein the impact modifier is ethylene vinyl acetate (EVA) modified with maleic anhydride or hydroxy ethyl acrylate and has with a vinyl acetate level ~~between of~~ 5 to 80 weight percent ~~with maleic anhydride or hydroxy ethyl acrylate~~.
10. (currently amended) The polyolefin blend of ~~claim~~ Claim 1, wherein the ~~functionalized impact modifier is~~ ethylene vinyl acetate modified with maleic anhydride or hydroxy ethyl acrylate and represents ~~between~~ 1 to 30 weight percent of the blend.
11. (currently amended) The polyolefin blend of ~~claim~~ Claim 1, ~~further comprising one or more of~~ wherein the impact modifier is ~~terpolymers or copolymers of ethylene, butyl acrylate, and glycidyl methacrylate (GMA); terpolymers of ethylene, ethyl, methyl or butyl acrylate, and maleic anhydride (MAH); a terpolymer[[s]] of ethylene, acrylic ester, and maleic anhydride or glycidyl methacrylate wherein the acrylic ester is methyl, ethyl, or butyl acrylate.~~
12. (currently amended) The polyolefin blend of ~~claim~~ Claim 1, wherein the impact modifier contains maleic anhydride or glycidyl methacrylate which is physically crosslinked. ~~MAH (unsaturated anhydride) and acrylate (GMA) may be physically crosslinked prior to addition to blend or in situ.~~
13. (currently amended) The polyolefin blend of ~~claim~~ Claim 1, wherein the impact modifier is an modified acrylate copolymers or terpolymers may react acrylate-containing copolymer or terpolymer which reacts with the free acid of the ionomer component.

14. (currently amended) The polyolefin blend of ~~elaim~~ Claim 1, wherein the ~~modified acrylate copolymer or terpolymers~~ impact modifier is an acrylate-containing copolymer or terpolymer ~~represent between and represents~~ 1 to 30 weight percent of the blend.
15. (currently amended) The polyolefin blend of ~~elaim~~ Claim 1, wherein the ~~polyolefin-metal salt is a copolymer or terpolymer ionomer~~ ionomer ~~[[,]] is 5 to 95% which is partially neutralized with [[a]] metal salt from 5 to 95 % ions.~~
16. (currently amended) The polyolefin blend of ~~elaim~~ Claim 1, wherein the ~~terpolymer ionomer~~ is a terpolymer of ethylene and an  $\alpha,\beta$ -ethylenically unsaturated carboxylic acid ~~is modified with methyl, butyl, or ethyl acrylate~~ [[;]] wherein the acrylate content is from 1 to 25 weight percent.
17. (currently amended) The polyolefin blend of ~~elaim~~ Claim 16, wherein the acrylate content ~~of the terpolymer ionomer represents between~~ is from 10 and to 25% weight percent.
18. (currently amended) The polyolefin blend of ~~elaim~~ Claim 1, wherein the metal ion is selected from the group consisting of lithium, sodium, potassium, magnesium, calcium, barium, lead, tin, zinc, aluminum, cadmium, and mixtures thereof.
19. (currently amended) ~~the~~ The polyolefin blend of ~~elaim~~ Claim 1, wherein the impact modifier is an ethylene copolymer elastomer which includes ~~may include~~ 1 to 20 weight percent of a low molecular weight ionomer wax or functionalized monomer representing from about 1 to 20 weight percent.
20. (currently amended) The polyolefin blend of ~~elaim~~ Claim 1, further comprising 1 to 40 weight percent of a filler ~~from about 1 to 40 weight percent.~~
21. (currently amended) The polyolefin blend of ~~elaim~~ Claim 20, wherein the mineral filler is selected from talc, calcium carbonate, wollastonite, calcium sulfate, barium

sulfate, metal fibers, nanocomposites, ceramic fibers and powders, polymeric fibers, crosslinked polymers, mica, silica, carbon fibers, metal fibers, clay, glass fibers, glass spheres, conductive fillers ~~such as polyaniline~~, and sulfonated materials ~~such as AMPS~~.

22. (currently amended) The polyolefin blend of ~~claim~~ Claim 1, further comprising 0.1 to 10 weight percent of a surface and mold release agent ~~such as high molecular weight silicone and silicone masterbatches, fatty acids (i.e. oleyl palmitamide, erucamide and behanamide)~~ representing from about 0.1 to 10 weight percent.

23. (currently amended) A process for preparing an article from a polyolefin blend ~~consisting essentially of~~ comprising:

providing a propylene ~~polymer~~ containing polymer,

~~adding a compound which may act as an impact modifier or interfacial agent selected from at least one of: ionomer waxes or functionalized monomers; impact modifiers and functionalized modifiers; a styrenic copolymer or elastomer with maleic anhydride grafting; ethylene vinyl acetate modified with maleic anhydride or hydroxyl ethyl acrylate; terpolymers or copolymers selected from one or more of ethylene, butyl acrylate, and glycidyl methacrylate; terpolymers of ethylene, ethyl, methyl or butyl acrylate, and maleic anhydride; ethylene propylene rubber with maleic anhydride grafting, the ionomer portion may be a copolymer or terpolymer modified with acrylate;~~

adding an ionomer which is an ethylene based polyolefin-metal salt that which is a reaction product of an ethylene containing polymer and a second organic monomer ~~containing a hydrophilic moiety~~; an ethylene: $\alpha,\beta$ -ethylenically unsaturated carboxylic acid copolymer or terpolymer and a metal salt, such component being at least partially neutralized with a metal salt between 5 to 95 % wherein the acid units are partially neutralized with metal ion(s);

adding an impact modifier selected from an ethylene copolymer elastomer which is a reaction product of ethylene and at least one  $\alpha$ -olefin selected from 1-octene, 1-heptene, 1-hexene, 4-methyl-1-pentene, 1-butene and mixtures thereof, wherein the elastomer is functionalized with maleic anhydride; a styrenic copolymer with maleic anhydride grafting; ethylene vinyl acetate modified with maleic anhydride or hydroxyl ethyl acrylate; copolymers of two of ethylene, butyl acrylate, and glycidyl methacrylate; terpolymers of ethylene, acrylic esters, and maleic anhydride or glycidyl methacrylate; and ethylene-propylene rubbers with maleic anhydride grafting, optionally either following partial or complete crosslinking thereof or such that crosslinking occurs *in situ* while adding to the propylene containing polymer and ionomer;  
~~mixing the ethylene copolymer until partially or completely crosslinked and adding to the blend; or~~

~~crosslinking in situ while adding the propylene polymer and polyolefin metal salt; or~~

~~mixing the propylene polymer, ethylene copolymer, and polyolefin metal salt; and~~

injection molding, blow molding or extruding the blend into an article ~~which will display~~  
displaying high scratch resistance, low blushing upon impact, ~~low temperature~~  
~~requirements when mandated,~~ tape adhesion, ~~molded in color,~~ controlled gloss levels, and  
superior weatherability, ~~and sonic welding capabilities.~~